

<Research Note>

A Note on Designers/ Implementers of Structural Adjustment in Mexico*

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I Introduction

During the 1980–90s Mexico experienced a change in development strategy. The import–substitution industrialization model that imprinted Mexico since the 1930s is gone away. Instead, Mexico has become an open economy in which the state’s intervention is limited by a new legal and institutional framework. Under the new model, the market, private ownership (or participation), and competition take over regulation, public ownership, and protection, respectively. Structural adjustment started in the area of trade liberalization during the de la Madrid Administration. Privatization of public enterprises and deregulation process followed. The most lucid examples of this change in development strategy, however, are the North American Free Trade Agreement (NAFTA) and the constitutional reform of land distribution and the *ejido* system during the Salinas Administration. Any social scientists would wonder why such a comprehensive reforms could be attained at a high speed.

To answer this question would require a book–size treatment. Therefore, this note intends to provide an answer to a smaller question : *Who were responsible for this dramatic change in development strategy?* The change was technocratic in the sense that it was directed from above, by bureaucrats at the Executive branch. Following previous studies, this note especially focuses on education and career experience of technocrats. Year–by–year survey on both secretaries and undersecretaries reveal the fact that

economists trained at macroeconomic agencies on the job have dominated the Executive branch. Common technical knowledge and skills would allow the entire Executive branch to speak with one voice (that is, comprehensive) and act in a concerted (that is, fast) manner. The section II briefly surveys the economic reform sequence taken by the Mexican government during the period of this study. The section III surveys the previous literature and explains an approach taken in the paper. The section IV shows the result of the examination of technocrats. A major finding is that economists who previously worked at macroeconomic agencies played an important role in designing and implementing major structural reforms. A micro view on two technocrats complements the macro-analysis to capture how they frame problems and economic reforms. Disadvantages of technocrats are also discussed. The section V concludes with a few implications.

II Economic Reform Sequence in Mexico

In this section, economic reforms from the Echeverría Administration to the Zedillo Administration are briefly reviewed.

After the *desarrollo estabilizador* and the political turmoil in 1968, the Echeverría Administration (Dec. 1970–Nov. 1976) intended to improve income distribution and to increase government intervention.¹⁾ While protection from external sector was maintained, big government supports toward agriculture and education were conducted. To finance massive expenses, tax reform was tried but failed to materialize because of oppositions from business sector. Thus, more and more the government depended on external debt for finance.

The López Portillo Administration (Dec. 1976–Nov. 1982) was conservative in government finance in its early period. However, the finding of abundant petroleum resources along with increasing oil prices in the world market relaxed its fiscal discipline. Big socially conscious government programs financed by external debt were thus maintained and newly created.²⁾ Interest rate increase caused by the US Fed at the end of the administration was a strong blow to the government. Interest payment ballooned and eco-

conomic uncertainties increased. The administration ended up in nationalizing commercial banks partly to control turbulent financial activities.³⁾

After the debt crisis, the de la Madrid Administration (Dec. 1982–Nov. 1988) started economic reforms. First came the stabilization. Then, in mid-1985, trade liberalization was initiated.⁴⁾ Various non-tariff measures were abolished. Mexico finally joined GATT in 1986. Privatization also started with small scale firms. The number of public enterprises decreased from 1155 in 1982 to 379 in 1989.⁵⁾

The Salinas Administration (Dec. 1988–Nov. 1994) furthered economic reforms. The privatization of national telephone company (Telemex) was announced in 1990 and concluded in 1991.⁶⁾ The privatization of commercial banks was conducted during 1991.⁷⁾ Private participation was allowed even in non-strategic parts within petroleum sector. Government retreated from production sectors except petroleum, electricity, national railway, and food distribution.⁸⁾ Deregulation proceeded in various sectors such as transportation, tourism, food distribution, industry and agriculture.⁹⁾ Competition law was modified and enhanced.¹⁰⁾ In 1991, a bold program of agrarian reform was initiated and culminated in the reform of the Article 27 of the Constitution, which ended the process of land redistribution.¹¹⁾ The new legislation established a flexible policy for defining *ejido* property. The new Article 27 allows investment companies to buy land through shares. A new program for social sector (PRONASOL) and a direct income transfer program (PRO-CAMPO) were created. On external front, foreign investment regulation was relaxed and trade reform culminated in NAFTA.¹²⁾ Economic reforms under the Salinas Administration was far reaching and comprehensive.

The Zedillo Administration (Dec. 1994–Nov. 2000) tried to consolidate economic reforms. On external front, it eased foreign investment regime more after the Tequila crisis. Free trade agreement with European Union was finished. Deregulation did not stop, either. The support for national food distribution company was substantially reduced. Instead a new poverty alleviation program with clear linkage to education, health and nutrition (PROGRESA) was created. Banking restructuring process after the 1994 financial

crisis proceeded in spite of various criticisms. Pension reform took place introducing defined contribution system.¹³⁾ However, private sector participation in electricity sector did not progress.

Economic reform sequence in Mexico is characterized as follows. During the Echeverría and López Portillo Administrations, government intervention was strengthened and covered various sectors. The de la Madrid Administration was a transition period to full-fledged market-based reforms, even though trade liberalization and privatization started. Market-oriented economic reforms took full force in the Salinas Administration. It was far reaching and economy-wide. The Zedillo Administration deepened the reforms in a few sectors, but overall consolidated the reforms already taken. The next section establishes the methodology to find who designed and executed these economy-wide reforms.

III Methodology

Economists in general don't pay much attention to implementation process of structural adjustment. For example, in the often-cited study on structural adjustment in Mexico, Lustig (1998) totally skips the issue of who were the promoters of the structural adjustment.¹⁴⁾ Nevertheless, scholars in economics studying structural adjustment cannot entirely ignore the question of promoters, because structural adjustment proceeds in some countries, but not in others. Therefore, Williamson (1994) searched for a manual for technopols (technocrats who take the risk of accepting political appointments, with the responsibility that entails).¹⁵⁾ He argues that a successful technopol needs to combine two very different types of skill. One is that of a successful applied economist, able to judge what institutions and policies are needed in specific circumstances in order to further economic objectives. The other is the skill of a successful politician, able to persuade others to adopt the policies that he or she has judged to be called for.¹⁶⁾ The study, especially a chapter on Mexico by Cordoba (1994), gives a good overview on structural adjustment implementation process, but it lacks a systematic and empirical treatment on who implemented the reform, since the goal of the

Williamson's study (providing future technopols with a manual) is normative rather than empirical.¹⁷⁾ This study tries to explain empirically who were the designers / implementers of structural adjustment. Given the major reforms Mexico has done so far, this note tries to find who were the main promoters.¹⁸⁾

Political scientists and sociologists have more keen interest in the empirical examination. Both Grindle (1977) and Camp (1985) argued that traditional distinction between *políticos* and *técnicos* was oversimplified in the Mexican case.¹⁹⁾ What they observed instead was the rise of political technocrats, who were capable of handling issues both technically and politically. Thus, this concept overlaps with technopol. There are two recent studies on this subject. While Camp (1995) dealt with political recruitment across two centuries, Centeno (1999) focused on the Salinas Administration.²⁰⁾ Both studied the career of elite, but differed in scope. Camp included office holders at the Judicial and Legislative branches in his sample, since he analyzed general pattern of political recruitment over time. In this respect, his goal is different from this paper.²¹⁾ Centeno focused on technocrats in the Salinas Administration. He emphasized the importance of planning in bureaucracy, and the rise of Secretaría de Planificación y Presupuesto (SPP, Department of Planning and Budget), which produced three consecutive recent presidents.²²⁾ He also analyzed the career of technocrats from various aspects such as relationship with governing party (Partido Revolucionario Institucional), birth place (Federal District or not), education, and professional experience in public sector.

I have three reservations on Centeno's study, even though my goal is similar : Who did the structural reform? First, he only examined two administrations (de la Madrid and Salinas) in a detailed manner using a detailed bibliographic information. As for previous administrations, he examined attributes of technocrats only at secretary level. This is unsatisfactory, because he did not compare the data at the same quality of information. Second, his detailed examination of technocrats was extensive but had only three points in time (1983, 1986, and 1989). Year-by-year examination would be better,

as Mexican office holders change rather quickly. Third, regarding professional experience, his classification is unique and unconventional. He set up four sectors (financial, planning, managing, and control), and classified government agencies as such. He emphasized the importance of planning so much that he separately classified three macroeconomic agencies (Secretaría de Hacienda y Crédito Público (SHCP, Department of Treasury), Banco de Mexico (Banxico, Central Bank of Mexico), and SPP) in two categories (the former two in financial and the latter in planning). This classification could have distorted the study on technocrats since they are trained not only in universities but also in the three macroeconomic agencies mentioned above.

The methodology of my study corresponds to my critique to Centeno's study. First, I examine four administrations (Echeverría, López Portillo, de la Madrid, and the first three years of the Salinas Administration) at undersecretary level, in addition to five administrations (four administrations plus the Zedillo Administration) at secretary level. A novel focus in this note is comparison between secretary level and undersecretary level. I chose this method because undersecretaries are more technical and less political by nature than secretaries, even though the former also needs some political maneuvers. In another words, since my focus is on policy design and implementation issues of structural adjustment, undersecretaries are examined and compared with secretaries.

In order to elaborate this point further, it would be useful to point out the persons in charge of major structural reforms : NAFTA and *ejido* reform. In the case of NAFTA, the secretary in charge is Secretaría de Comercio y Fomento Industrial (SECOFI, Department of Commerce and Industrial Promotion). The Secretary (Jaime Serra Puche), Head Negotiator (Herminio Blanco) and Undersecretary of Foreign Trade (Pedro Noyola) were important in NAFTA negotiation.²³⁾ The three of them were economists, and they had experiences in working at SHCP.²⁴⁾ In the case of *ejido* reform, the secretary in charge was Secretaría de Agricultura y Recursos Hidráulicos (SARH, Department of Agriculture and Water Resources). The principal designer in

charge of this reform at undersecretary level was Luis Téllez, who was also economist and worked before at both SHCP and SPP.²⁵⁾ Both examples illustrate the fact that major structural reforms were designed, promoted, and implemented by economists trained in macroeconomic agencies.²⁶⁾

Second, this examination is conducted on a year-by-year basis. This treatment is appropriate because few secretaries survive one *sexenio* (six year term of a presidency).²⁷⁾ Third, I emphasize the experience at three macroeconomic agencies as a common feature of technocrats. Since the major argument for structural reform is efficiency gain from economy-wide change, this idea is strengthened by on-the-job experience of looking at the entire Mexican economy through the lens of economics while working at macroeconomic agencies.

All the departments except navy, national defense, justice and federal district are in the database.²⁸⁾ I excluded these four departments because of two reasons. First, those who occupy important posts are career military officers in the case of national defense and navy, and lawyers in the justice. I also excluded federal district government because my concern is about nation-wide structural reform. In the case of federal district, the head was in the cabinet, but its official power is confined within the city.²⁹⁾ Second, these four departments are almost outside of structural reform.³⁰⁾ I did not include the information of official mayors of departments, because official mayors in general deal with administrative work of the department, not policy issues. I included private secretary to president (or chief of staff at presidency) in this sample because of its importance in policy making.³¹⁾ In the case that there is a replacement within a year, I simply count both two persons for a year. In many undersecretary posts, no single person occupies the same post even during the same administration. Finally, even though the last year of a *sexenio* is also the first year of the next *sexenio*, I consider it entirely as a former. It is because the next *sexenio* begins in December.

The primary resource for this study is Camp's book.³²⁾ In addition, to complement the database, I used biographical resource published by *Presidencia de la Republica* and *Who's Who Homepage (Quién es quién)* at *Infosel*

web site.³³⁾ The next section shows the result.

IV Attributes of Designer/Implementers of Structural Reform

This section presents the result of the examination, followed by a micro view on two technocrats.

1 Result : Macro View

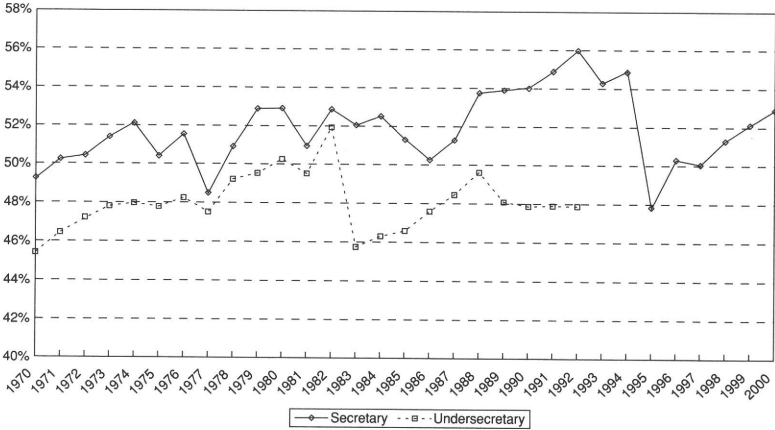
This subsection shows the attributes of secretaries and undersecretaries in terms of age, birthplace, academic discipline in the higher education, and previous experience in macroeconomic agencies (SHCP, Banxico, and SPP). The former two variables would partially capture social background of technocrats. The younger the technocrats are, the less experienced they are in their life in general, however technical they are. The common birthplace would signal social coherence of technocrats, given the regional diversities of Mexico. The latter two variables would represent human resource development of the technocrats. Many government officials don't go to the private sector, except public enterprises. Thus, academic experience and previous experience in other agencies are vital to their knowledge and skill accumulation. Experiences at macroeconomic agencies are targeted, given the economic rational of structural adjustment described in the last section. For each attribute, I show the result at secretary level first, and then at undersecretary level, except age.

(1) Age

Chart 1 shows average age of both secretaries and undersecretaries. It is natural to expect that in the beginning of each administration the age is lower. As for secretary, this tendency is observed except in the case of the de la Madrid Administration. Interestingly, the average age of the Salinas Administration is quite old compared to other administrations, even though the president was the youngest of all four at inauguration. As for undersecretary, the age gap between the López Portillo Administration (1982) and the de la Madrid Administration (1983) is quite notable.³⁴⁾ This is all the more interesting because at secretary level a comparable age gap is hardly observed.

In sum, undersecretaries are younger than secretaries on average. At

Chart 1 Secretary and Undersecretary : Age



undersecretary level, it is notable that the de la Madrid Administration welcomed many young people.

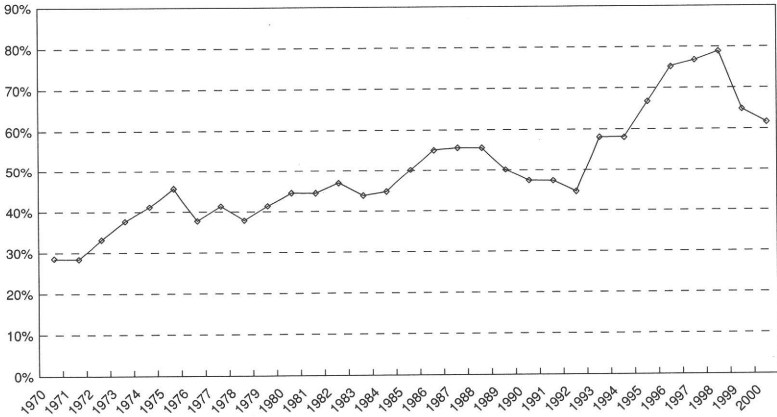
(2) Birth Place

Birthplace is a social attribute of bureaucrats. Both Camp (1995) and Centeno (1999) found concentration of Mexico–City–(DF)–born persons in bureaucrats. They regard this attribute as a representative variable of social cohesion among technocrats. The more Mexico–City–born persons there are, the more coherent socially the administration is.

At secretary level, this concentration is a gradual process (Chart 2). Note that even within each administration, this concentration was happening. At the beginning of the Echeverría Administration, the share of Mexico–City–born secretaries in total was about 30%. In the Zedillo Administration, the ratio is about 60%. Historically, the share of population in Mexico City in total population is around 30%.

At undersecretary level, there is a clear difference between the López Portillo Administration and the de la Madrid Administration (Chart 3). Since the de la Madrid Administration undersecretaries had been occupied notably by Mexico–City–born persons. This data suggests there was an abrupt change in undersecretaries' social background.

Chart 2 Secretary : DF as Birthplace



In sum, both at secretary and undersecretary levels, the share of Mexico –City–born persons has been increasing. While at secretary level the change is gradual, at undersecretary level there was a abrupt change between the López Portillo Administration and the de la Madrid Administration. Note that this change was correlated with the age change.

Chart 3 Undersecretary : DF as Birth Place (%)

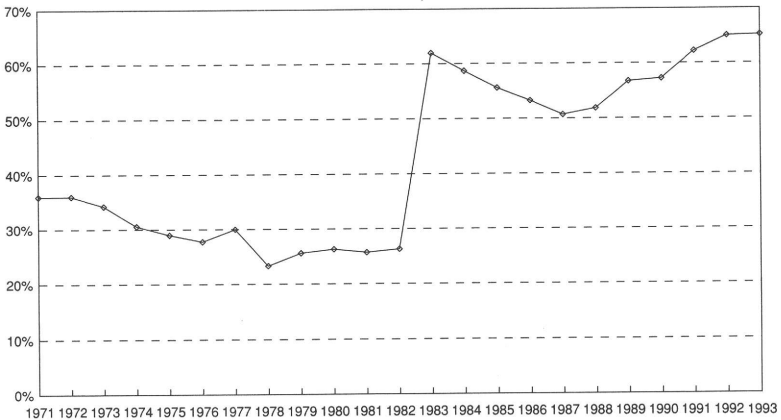
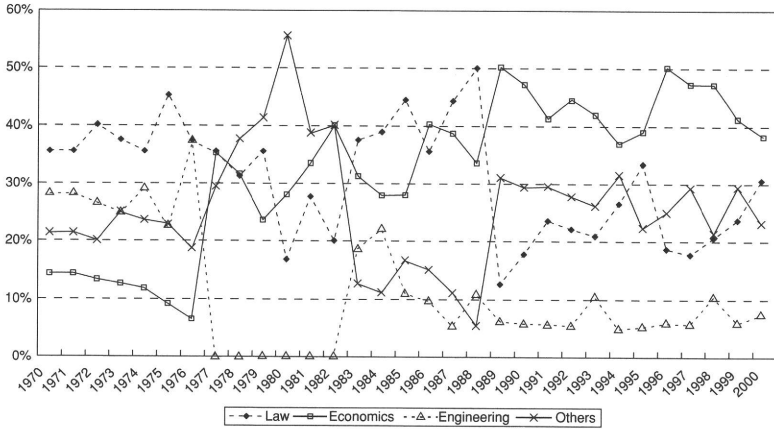


Chart 4 Secretary : Discipline in the Higher Education



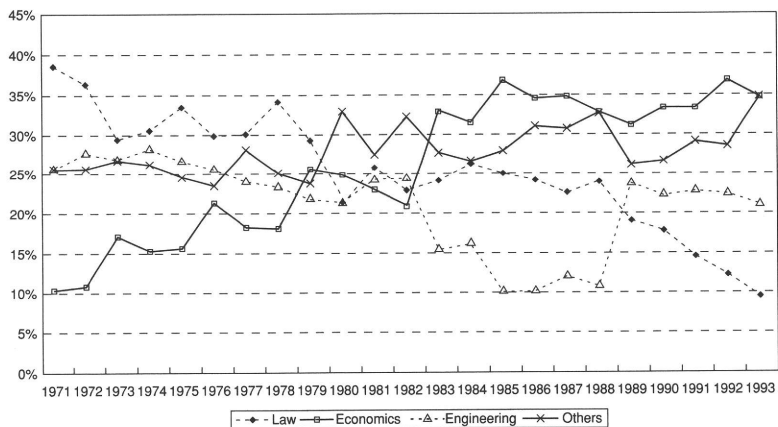
(3) Academic Discipline in the Higher Education

Academic discipline is also much discussed and highlighted by both Camp (1995) and Centeno (1999). Both of them emphasized the rise of economics as discipline. Chart 4 shows the result at secretary level.³⁵⁾ The trend is the decline of lawyers, and the rise of economists. The dominance of economics started at the Salinas Administration. Others include various disciplines which cover political science, public administration, medical science, and natural sciences, and no degree.

Chart 5 shows the result at undersecretary level. Here, engineers have played much more important role than at secretary level. Engineers also declined over time up to the de la Madrid Administration, but rose back in the Salinas Administration. What stands out compared with secretary level is the timing of dominance of economics. It happened at the de la Madrid Administration at undersecretary level, while it happened at the Salinas Administration at secretary level.

In sum, at both secretary and undersecretary level, lawyers have decreased and economists have increased. The timings were different. At secretary level, it was at the Salinas Administration, while at undersecretary level it was at the de la Madrid Administration, one administration before.

Chart 5 Undersecretary : Discipline in the Higher Education

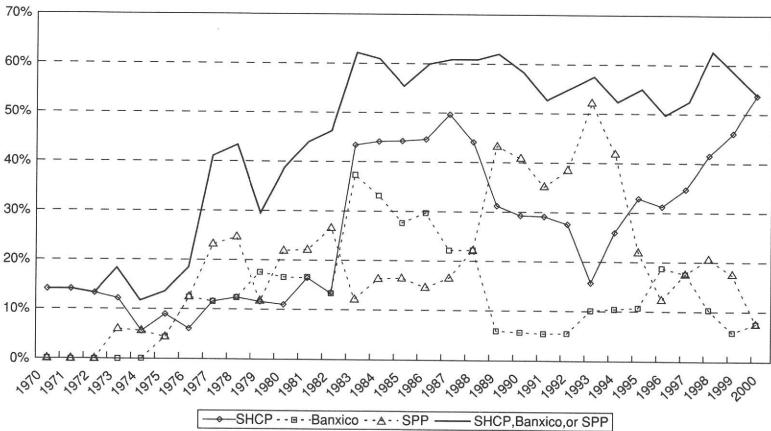


(4) Previous Experience at Macroeconomic Agencies

Both Camp (1995) and Centeno (1999) emphasized previous experience at public sector, but my classification is new. The chart 6 is the result at secretary level.³⁶⁾ It is quite notable that in the Echeverría Administration the experience at macroeconomic agencies is quite limited. Generally, only office holders at macroeconomic agencies were counted as such. The number was increasing during the López Portillo Administration, and reached about 60% in the de la Madrid Administration. Interestingly, since then the share has stayed the same more or less during two following administrations. But, the composition has changed. In both of the de la Madrid Administration and the Zedillo Administration SHCP is the dominant source, while SPP was the top supplier in the Salinas Administration.

The chart 7 shows the result by previous experience in the three macroeconomic agencies at undersecretary level. In the Echeverría Administration, bureaucrats who worked previously in macroeconomic agencies had a small role in undersecretaries. Their posts were in general confined to SHCP, as it was the case at secretary level. In the López Portillo Administration, the ratio increased slightly, but it is partly because SPP was created and expanded. A clear increase is notable in the de la Madrid Administration. Many bureau-

Chart 6 Secretary : Previous Career Experience

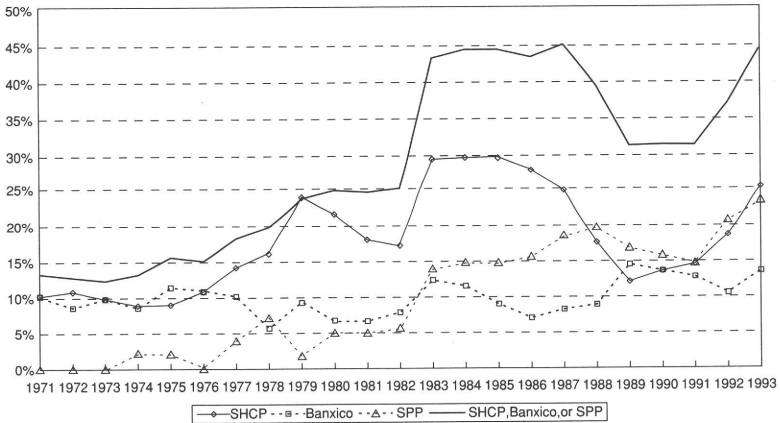


crats who worked in SHCP became undersecretaries of non-macroeconomic departments, paving roads toward structural adjustment. It is very amazing to confirm that during the de la Madrid Administration the share of undersecretaries who had prior experience in macroeconomic agencies reached 45%. In the first years of the Salinas Administration, the ratio decreased, but in 1992 the ratio was again close to 45%. In this period, both SHCP and SPP were competing in numbers of undersecretaries.

Since the de la Madrid Administration, the ratio has been 50 to 60 % of secretary posts, while at undersecretaries it has held only 30 to 45 %. It is because one department has various undersecretaries in which very specific technicality is required (e.g., medical knowledge at Department of Health, and agricultural knowledge at Department of Agriculture).

The contrasts between Charts 4 and 5 and Charts 6 and 7 could partially indicate the staggered trajectories of the rise of technocrats followed by their transformation into technopols across the Executive branch. This has been notable since the de la Madrid Administration. In fact, Pedro Aspe who was appointed as undersecretary at SPP during the de la Madrid Administration became SHCP secretary during the Salinas Administration. Jaime Serra who was undersecretary at SHCP during the de la Madrid Administration

Chart 7 Undersecretary : Previous Career Experience



also became secretary at SECOFI. Ernesto Zedillo was another example. This tendency is also notable between the Salinas Administration and the Zedillo Administration.³⁷⁾

In sum, the rise of economists trained at macroeconomic agencies is observed. This facilitated communications across the secretaries in the economy-wide reforms.³⁸⁾

2 Micro View

This subsection complements the previous subsection with a micro view. Two technocrats are selected to visualize what they believe and how they frame problems. This would clarify how Mexico embarked on reforms in 1980s and 1990s, the age of globalization. Possible disadvantages are also discussed.

(1) Pedro Aspe Armella

Pedro Aspe was selected because he was one of the most famous technocrats during the Salinas Administration. He was invited to make the Lionel Robbins lecture for 1992 at London School of Economics.³⁹⁾ He delightedly accepted the invitation and the lecture was published, which would allow researchers to grasp what he believed and how he viewed Mexican economy.⁴⁰⁾

Aspe agrees with Robbins that it is not for the state to intervene where

markets can do better in terms of resource allocation and distribution of income, and that it is equally unwise to forego the capacity of the state to regulate when markets fail to grant equal access to every individual or remain blind to the realities of poverty and marginalization.⁴¹⁾ He justifies market-based reforms by saying that “in abandoning its role of proprietor, the state has taken on greater solidarity with the needs of the poor”.⁴²⁾ Thus, he believes in both market and government.

In his book, certainly he explained structural reforms in detail, but the main flavor lies in his revision of his Ph.D. thesis at MIT regarding mechanisms of economic transmission. He wrote: “If I were to write my thesis again today, I have the feeling that the results would be substantially different.” His treatment is purely in the manner of macroeconomics, and with hindsight, he could have been too bold and optimistic on his message in the book. It is now recognized that macroeconomic and banking management was unsatisfactory in the Salinas Administration, leading to Tequila crisis in 1994. The thematic and physical limit of this paper does not allow the author to deal with whether he misperceived the new mechanisms and, if so, why. Rather, one could focus on why he could promote new mechanisms while he was dealing with financial market sentiment as Secretary of Treasury.

This problem is subtle but important in the sense that it demonstrates a common character of the technocrats of the time. It could not be denied that he could publish the book because he did not seriously consider the chance that his strongly expressed belief in the new macro mechanisms might lead to overconfidence in the financial market, whose reversal could have been unfortunately shown in the volatile capital outflow during the Tequila crisis. This reveals his limited experiences in dealing with fragile global financial market, possibly because his career consists of academic and bureaucrat posts. He is another example of economist trained in macroeconomic agencies. He was born in Mexico City in 1950. After earning economic doctorate in 1978 at MIT, he started jointly academic and bureaucratic career in Institute Tecnológico Autónomo de México and SHCP, respectively. He became Undersecretary of Planning and Budget in 1985, then moved to secretary

post in 1987. When the Salinas Administration took off, he became Secretary of Treasury. He administered commercial bank and Telemex privatization as well as macroeconomic management. Thus, he lived in academics and macro planning believing in market mechanism, while he did not have opportunity to live in the market.

This limited market experience characterizes technocrats of the period. This would certainly encourage them to embark on textbook economic reforms. However, faced with the most volatile market of all, global financial market, inexperienced technocrats might have evaporated the market sentiment.⁴³⁾

(2) Luis Téllez Kuenzler

During both of the Salinas and Zedillo Administrations, Luis Téllez is one of the most illuminating technocrats, and exemplifies the track of economist trained in macroeconomic agencies. He was born in Mexico City in 1958. After earning his economic doctorate at MIT with a macroeconomics thesis, he entered Department of Planning and Budget in 1986. He moved from director to coordinator of advisers during the de la Madrid Administration, and became director general at SHCP with the start of the Salinas Administration. Then, he became newly created Undersecretary of Planning at Department of Agriculture from 1990 to 1994, conducting *ejido* reform as well as consultations regarding NAFTA and PROCAMPO. After a brief period in supporting presidential campaign, he became the Chief of Staff from 1994 to 1997 under President Zedillo. In 1997, he became Secretary of Energy and served until the end of the administration.

He wrote an article on agrarian reform, which allows researchers to examine what he believes and how he framed the problem.⁴⁴⁾ His treatment with rural sector is notable in its ahistorical nature. His view on the modernization of rural sector takes account of physical side (natural resources, water resources, weather, geography), human resource side (poverty alleviation concerns through solidarity, education, health and nutrition), external side (macroeconomic uncertainties), and institutional side (constitution, laws, and government programs).⁴⁵⁾ Then, all of these are supposed to generate

sustained growth and rural welfare. It is a simple economic treatment, discarding all the social and political dimensions. Regarding the article 27 amendment, he boldly states as follows: "Security in land holding and commercial transactions, liberty in producers' decisions and flexibility in investment scheme which allows constant flow of resources to rural sector, are fundamental factors to reverse the difficult situations in which the rural sector stays."⁴⁶⁾

The *ejido* reform, therefore, was rationalized in terms of economics. This evidence suggests that economists trained in macroeconomic agencies are promoters of structural adjustment, especially in design and implementation of reforms. But the fact that social, political and historical factors did not have an explicit voice in design means that reform must have had an element of leap of faith toward the invisible hand.

V Conclusion

After surveying economic reforms in Mexico and previous literature, this note examined four attributes of main promoters of economy-wide structural reform in Mexico both at secretary and undersecretary level to explain who were the designers/implementers of structural adjustment in Mexico. First, by age, the downward age jump between the López Portillo Administration and de la Madrid Administration at undersecretary level is outstanding against secretary level. Second, by birth place, Mexico City is becoming clearly dominant at both levels. Third, by academic discipline at higher education, the rise of economics and the fall of law is notable at both levels. But, the timings of change were different. At secretary level, economics became dominant at the Salinas Administration, while at undersecretary level it already had happened at the de la Madrid Administration. Fourth, by previous experience at three macroeconomic agencies SHCP, Banxico, and SPP, the share of total rose up to the de la Madrid Administration at both levels. In sum, economists who previously worked at macroeconomic agencies took over the Executive branch in designing and implementing major structural reforms at both macroeconomic and non-macroeconomic agencies.

This means common technical knowledge and skills and frictionless inter-secretarial communications, which would clearly have facilitated the Executive branch to embark on comprehensive reforms at a high speed. The contrast between secretaries and undersecretaries indicates the staggered trajectories of technocrats, followed by their transformation into technopols.

Microscopic examination on two technocrats under the Salinas and Zedillo Administrations complements the findings above. Major advantage of the technocrats clearly lies in their technicality, economic analysis. It is advantageous in design and implementation, but might not be really comprehensive. Moreover, technocrats' own limited market experiences might have led to market overconfidence, in the area at which economists trained at macroeconomic agencies are supposedly good at.

A few implications could be drawn. First, the superiority in technicality might not totally cover market experience. Market is a form of governance, which appreciates tacit knowledge gained through experiences. It is not surprising that inexperienced technocrats don't always behave well in the global market, even though they created and/or promoted it. Second, the very technological knowledge and skills might stand in the way of communications with politicians and ultimately with the people regarding the policy contents. While this isolation could enhance the reform speed, it might eventually alienate politicians and the people from the decision making, and reduce the legitimacy of the technocrats ultimately.

* I would like to thank two anonymous referees, the editorial committee, Koji Serita, Yuriko Takahashi, Keiichi Tsunekawa, Toru Yanagihara for comments and suggestions, and Mitsuru Igami, Mamoru Fujita and Maki Komatsu for excellent assistance. Remaining errors are solely my responsibility. I am partially supported by Grant-in-Aid for Encouragement of Young Scientists (#12730029) of Japan Society for the Promotion of Science.

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- 16) Ibid., p.12.
- 17) José Córdoba, "The Political Economy of Policy Reform : Mexico," in John Williamson (ed.), *The Political Economy of Policy Reform* (Washington, DC : Institute for International Economics, 1994).
- 18) Therefore, this note focuses on who did the reforms, not how reforms were possible. The latter question is out of my goal, since all the political processes would have to be examined.
- 19) Merille S. Grindle, "Power, Expertise, and the Técnico : Suggestions from a Mexican Study," *Journal of Politics*, vol. 39, no. 2, (May 1977), pp.399-426 ; and Roderic Ai Camp, "The Political Technocrat in Mexico and the Survival of the Political System," *Latin American Research Review*, vol. 20, no. 1 (1985), pp.97-118.
- 20) Roderic Ai Camp, *Political Recruitment across Two Centuries : Mexico, 1884-1991* (Austin, Texas : University of Texas Press, 1995) ; and Miguel Centeno, *Democracy Within Reason : Technocratic Revolution in Mexico*, 2nd ed. (University Park, Pennsylvania : Pennsylvania State University Press, 1997).
- 21) He also focused on first-time office holders, because he thought first-time office holders represent the pattern of political recruitment of that time.
- 22) SPP was abolished and merged with SHCP in 1992.
- 23) Blanco was Undersecretary of Foreign Trade before Noyola.
- 24) Serra was Undersecretary of Income, and Noyola was his adviser at SHCP in the de la Madrid Administration. Blanco was an adviser at SHCP in the López Portillo Administration. Serra earned Ph.D. in economics at Yale University, Blanco earned Ph.D. in economics at University of Chicago, and Noyola earned Ph.D. in operations research at Stanford University.
- 25) See more on Téllez in Section V.1.
- 26) Other major structural reforms include trade liberalization initiated in 1985 and privatization of public enterprises. On the former, the person in charge was Héctor Hernandez, Secretary of Commerce and Industrial Promotion during the de la Madrid Administration, who was an economist trained at Banco de México. On the latter, the person specifically in charge of bank privatization was Guillermo Ortiz, Undersecretary of Treasury during the Salinas Administration,

who was also an economist trained at Banco de México.

- 27) For example, in the Salinas Administration, only 6 secretaries (which includes Department of National Defense) out of 20 survived 6 years.
- 28) The total number of departments is about twenty. Sometimes, it varies due to administrative reform. Thus, I am concerned with about sixteen departments.
- 29) Certainly, during the Salinas Administration, Mexico City mayor (Camacho Solís) intervened in various national politics (e.g., teachers' strike). But, his interventions were due to his political skills.
- 30) I am concerned with economic aspect of structural adjustment. Thus, political decentralization (such as election of Mexico City mayor) is basically out of this framework.
- 31) An illustrating example is the case of José Córdoba, who assisted NAFTA negotiations.
- 32) Roderic Ai Camp, *Mexican Political Biographies 1935-1993* (Austin, Texas : University of Texas Press, 1995).
- 33) Presidencia de la República, *Diccionario biográfico del gobierno mexicano* (México : Fondo de Cultura Económica, 1984) ; and Presidencia de la República, *Diccionario biográfico del gobierno mexicano* (Mexico : Editorial Diana, 1989). Infosel's homepage is [http : //www.infosel.com/](http://www.infosel.com/)
- 34) The age gap at secretary level between Salinas and Zedillo Administrations is also notable. Given the limited data, I cannot check the undersecretary level.
- 35) The chart shows the discipline adopted by secretaries in the higher education. Almost all the secretaries and undersecretaries graduated from universities. Some of them obtained master and doctorate. In the case that discipline chosen at university is different from the one at master or doctor course, the discipline at master or doctor level is counted.
- 36) Many secretaries (and undersecretaries in Chart 7) had worked before in two agencies. I counted each person as one for each agency, but I did not account twice for "SHCP, Banxico, or SPP" line. Thus, the simple aggregation of three lines is no less than the "SHCP, Banxico, or SPP" line.
- 37) Several undersecretaries during the Salinas Administration became secretaries in the Zedillo Administration (e.g., Herminio Blanco, Esteban Moctezuma,

- José Angel Gurría, Guillermo Ortiz, Carlos Rojas).
- 38) President Salinas noted that at the conclusion of the NAFTA, Serra thanked several officials of other agencies (Luis Téllez (Agriculture), Carlos Ruiz Sacristán (Treasury), José Alberro (Pemex), and Carlos Hurtado (Social Development)) in the cabinet meeting. All of them are economists trained at macro-economic agencies. Carlos Salinas de Gortari, *México : Un paso difícil a la modernidad* (México : Plaza & Janés, 2000) p.147.
- 39) Lionel Robbins (1898–1984) is remembered in economics by his definition of economics as the deductive exploration of the logic of maximizing under the constraint of scarcity. Lionel Robbins, *An Essay on the Nature and Significance of Economic Science* (London : Macmillan and Company, 1935). This definition is the foundation of allocative efficiency of market mechanism.
- 40) Pedro Aspe, *Economic Transformation the Mexican Way* (Cambridge, Mass : MIT Press, 1993).
- 41) Ibid., p.x.
- 42) Ibid., p.xii. His concern with the social issues was reflected in his co-edited book in 1980s. Pedro Aspe and Paul E. Sigmund (eds.), *The Political Economy of Income Distribution in Mexico* (New York : Holmes & Meier Publishers, Inc., 1984).
- 43) There is a contrast between Pedro Aspe and José Ángel Gurría, Secretary of Treasury after the Tequila crisis. José Ángel Gurría, though technocrat, was extensively engaged in debt restructuring negotiations with international financial communities in 1990s, which must have given him significant market experience.
- 44) Luis Téllez Kuenzler, “Campo” in A. Warman (ed.), *La política social en México, 1989–1994* (México : Fondo de Cultura Económica, 1994), pp.29–105.
- 45) Ibid., p.30.
- 46) Ibid., p.93. The author’s translation (original in Spanish).